LETTERS

Comment on "AGU Statement: Investigation of Scientists and Officials in L'Aquila, Italy, Is Unfounded"

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In regard to the recent statement by AGU defending our Italian colleagues' statement on earthquake predictions (*Eos, 91*(28), 248, 13 July 2010), it is my view that there is something more positive that AGU might do than just defend our colleagues. The fundamental problem is that we cannot, with any reasonable certainty, predict earthquakes. This problem applies to many other areas as well. It follows that any statements scientists make should be moderated by that simple fact.

A statement that, to me, is justified is, "I do not know and cannot reliably predict such events for a specific time of occurrence." This seems to me to be an honest statement. The "prediction" that a significant earthquake would have only a low probability of occurring in regions with frequent tremors or in a tectonically active region is neither prudent nor justified. The more careful approach is also applicable to "predicting" the occurrence of hurricanes and tornados. In these cases we know the circumstances and seasons when they occur but can make only reasonable predictions after we establish the possible trajectory and degree of an observed disturbance.

This is also a problem in "predicting" global climate change regimes. The scientific community has clear evidence of alteration of our global atmosphere and oceans resulting from human activity. We have models of the processes that appear to have caused them and have inferred the global changes. Because of the extreme magnitude of the possible effects, these considerations and actions must be given serious consideration by all levels of government (nationally and internationally). However, we do not have the knowledge or power to make explicit predictions. As philosopher Alfred Korzybski once stated, "the map is not the territory"; the "map" is what we think resembles reality, and we should use it as a guide in our thinking and actions. One is well advised, when traveling to a new territory, to take a good map and then to check the map with the actual territory during the journey. This map must be subject to new objective scientific insights with due consideration of the potential imminence of the global changes. Our actions should reflect this viewpoint.

AGU would do a considerable public service if it established a panel to lay out reasonable rules of response to the question of hazards, both immediate and potential. This would be useful as a guide for scientists in reports to the general community. The matter is a complex one, but it is possible to lay out simple guidelines. Certainly in the case of earthquakes, the basic matter of properly designed structures and the enforcement of adequate building requirements is key to most matters. In all cases, the deep question is the social/political one: How can human societies rationally prepare for and respond to real, potential, or imminent disasters?

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Further Comment on "AGU Statement: Investigation of Scientists and Officials in L'Aquila, Italy, Is Unfounded"

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The AGU statement on the investigation of Italian scientists and officials in regard to the L'Aquila earthquake (*Eos, 91*(28), 248, 13 July 2010) appears to be a noble attempt to protect not only these individuals but also those AGU members who are involved in similar hazard and risk assessments. But in the long run this statement not only damages AGU by misleading its membership as to the responsibilities of the indicted individuals but also sends the wrong message to the Italian scientific communities about their social responsibilities.

The AGU statement assumes that the indicted individuals are innocent because it is not possible for scientists to predict earthquakes, but it neglects to explain what their scientific responsibilities are and why these individuals may be also guilty of failing to properly exercise their social responsibility. If one accepts public funds, has the responsibility of deciding how to manage those funds, and is playing the double role of a scientist and a politician, one is also responsible for both the scientific and social consequences of one's actions. Because some of the indicted individuals are also responsible for drafting and promoting the unreliable Vesuvius Evacuation Plan (http://www.westnet.com/~dobran), they should also be accountable for the consequences in the Vesuvius area.

If, with AGU's help, the commission (Commissione Grandi Rischi) consisting of the indicted individuals is acquitted of any wrongdoing in L'Aquila, this will have long-lasting repercussions for volcanic and seismic risk management in Italy and elsewhere. This is because some of the indicted individuals control much of the Italian research resources in geosciences, and, if acquitted, they and others will be justified in promoting their flawed volcanic, seismic, and other risk management strategies. The independent thinkers wishing to develop and promote better strategies will not be able to secure academic and research positions in their native country and will be forced to go abroad to maintain their freedom of expression.

The AGU statement invites AGU members to support it, but I see serious flaws in involving a scientific organization in judicial business. It is the job of Italian prosecutors, judges, and a jury to determine the appropriateness of the actions of the indicted individuals. My full reply to the AGU statement can be found at http://www.westnet.com/~dobran/agureply.html.

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